

Referral pattern of children with short stature to a pediatric endocrine clinic in Kuwait



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Objectives:

- Monitoring statural growth in childhood and adolescence is critical part of child health programs.
- It reflects the child's nutritional status, psychological well-being, and possible underlying disease conditions. (1)
- The aim of the study was to describe the referral pattern, baseline characteristics, and etiological profile of children referred with short stature in Kuwait.

Methods:

- This is a cross-sectional retrospective review of children referred to the Endocrine Clinic with short stature.
- Short stature was defined as height or length below the 3rd centile or less than -2 standard deviation score (SDS). (2)

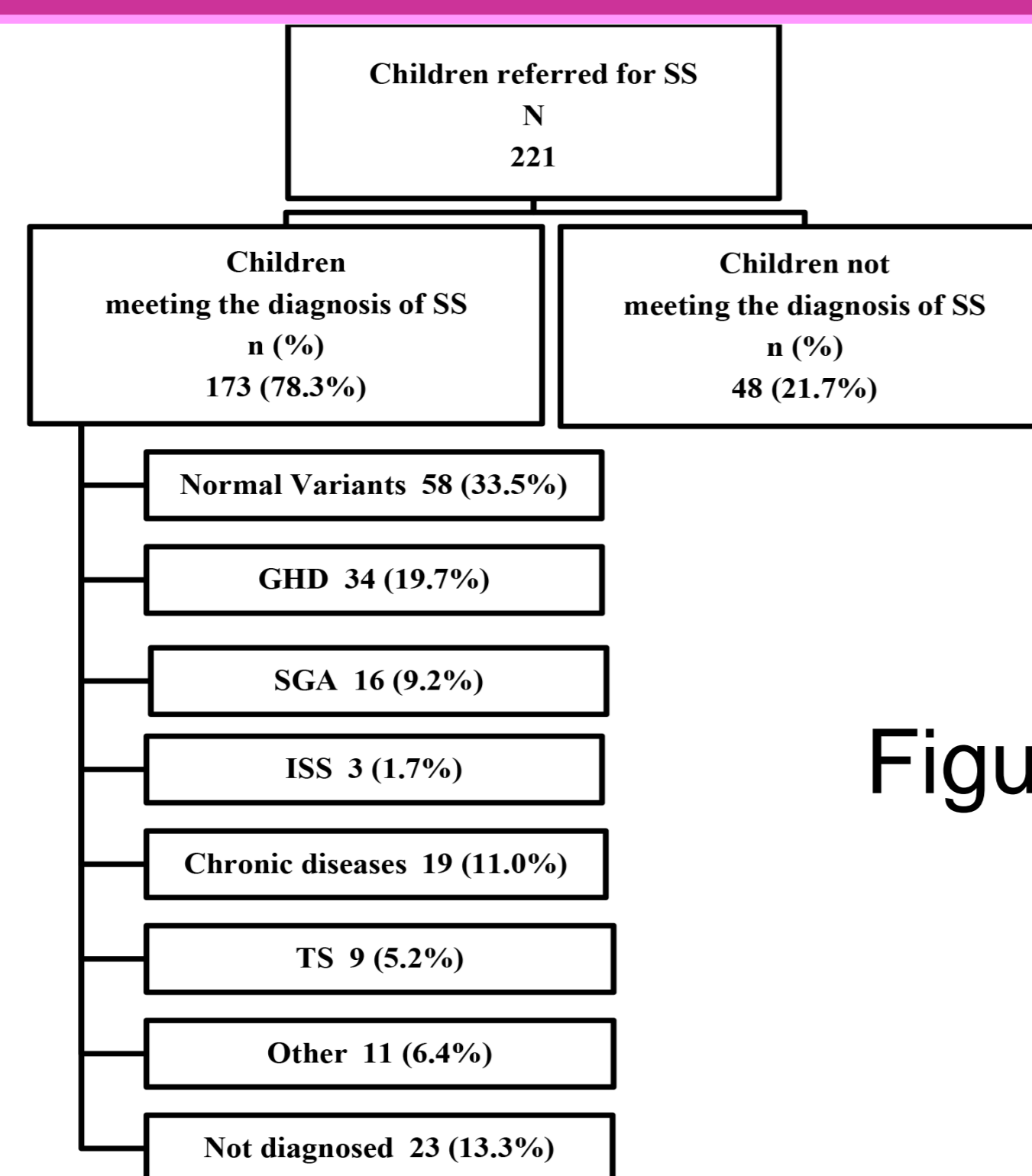


Figure.1

Variable	CDG N = 12	FSS N = 10	CDG and FSS N = 36	P value
Gender, Male n (%)	7 (58.3%)	6 (60.0%)	22 (61.1%)	0.774
Median Age (IQR), years	9.5 (6.7, 10.6)	8.3(5.3, 11.1)	7.8 (4.8, 10.2)	0.735
Pre-pubertal, n (%)	7/9 (77.8%)	6/8 (75.0%)	26/30 (86.7%)	0.619
Mean HT SDS (SD)	-2.63 (0.55)	-2.43 (0.49)	-2.28 (0.25)	0.049
Median BMI SDS (IQR) [†]	-0.23 (-1.50, 0.21)	-0.25 (-0.88, 0.66)	-0.31 (-1.22, 0.32)	0.751
Mean TH cm (SD) [‡]	167.5 (7.2)	161.6 (8.7)	161.8 (6.6)	0.122
Median TH SDS (IQR) [§]	-0.24 (-1.19, 0.03)	-1.44 (-1.85, -1.03)	-1.30 (-1.71, -0.95)	0.027

CDG: Constitutional delay of Growth, FSS: Familial Short Stature, HT: height, BMI: Body Mass Index, TH: Target Height. [†]Missing 2 subjects, [‡]Missing 5 subjects, [§]Missing 3 subjects.

Table.1

Results:

- A total of 221 children were referred with no gender difference (p=0.346). Figure.1
- Almost one fifth of these children had normal stature.
- Median (interquartile) age was 7.7 (4.7, 10.3) years and mean height SDS was -2.67 (0.68). Table.1
- The most common diagnoses were normal variants of growth, growth hormone deficiency. Figure.1

Conclusions:

- In this study, we have demonstrated that almost one fifth of the children referred for evaluation of short stature had normal growth. This highlights the need to improve the referral process in order to avoid unnecessary investigations and alleviate parental anxiety.
- The most common diagnoses for short stature were normal variants of growth and GHD.
- Our data show that there is no gender bias in referral of children with short stature in Kuwait.
- Our data highlight the need for further investigation of children with short stature in the country and the region.

References:

- Tanner JM. Growth as a measure of the nutritional and hygienic status of a population. *Hormone research*. 1992;38 Suppl 1:106-15. PubMed PMID: 1295807.
- Rogol AD, Hayden GF. Etiologies and early diagnosis of short stature and growth failure in children and adolescents. *The Journal of pediatrics*. 2014 May;164(5 Suppl):S1-14 e6. PubMed PMID: 24731744.

